

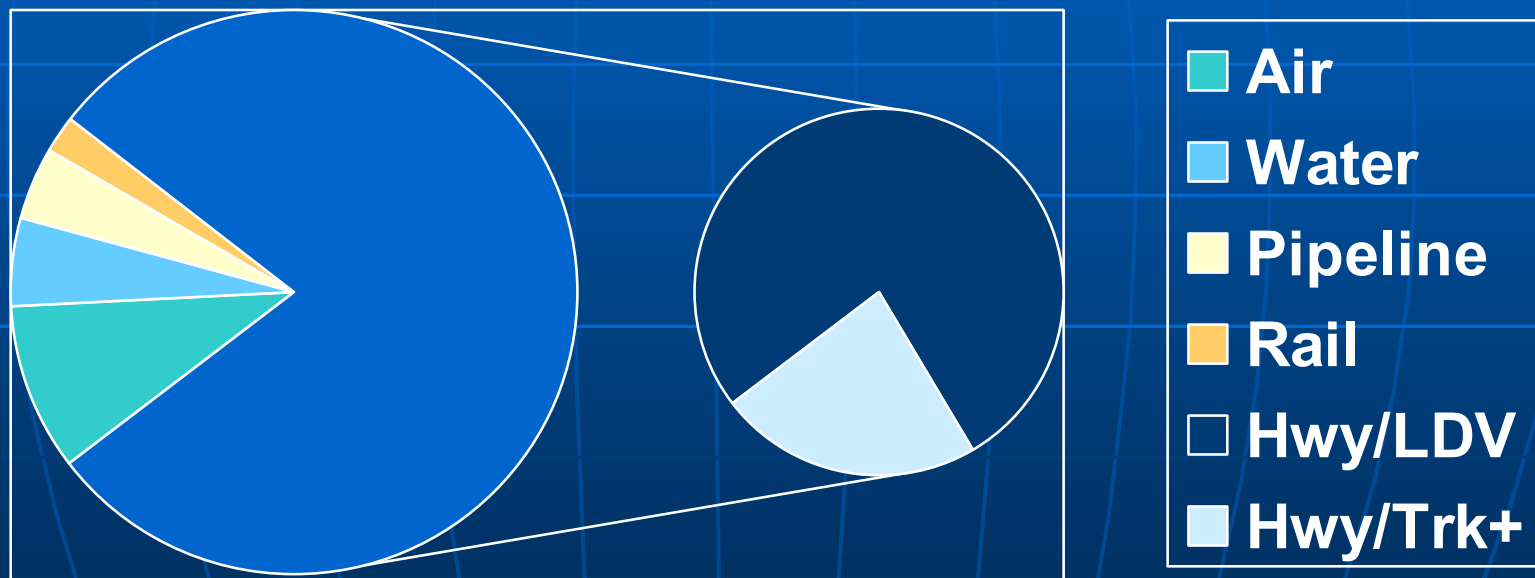
Transportation Sector Energy Intensity Trends

David L. Greene

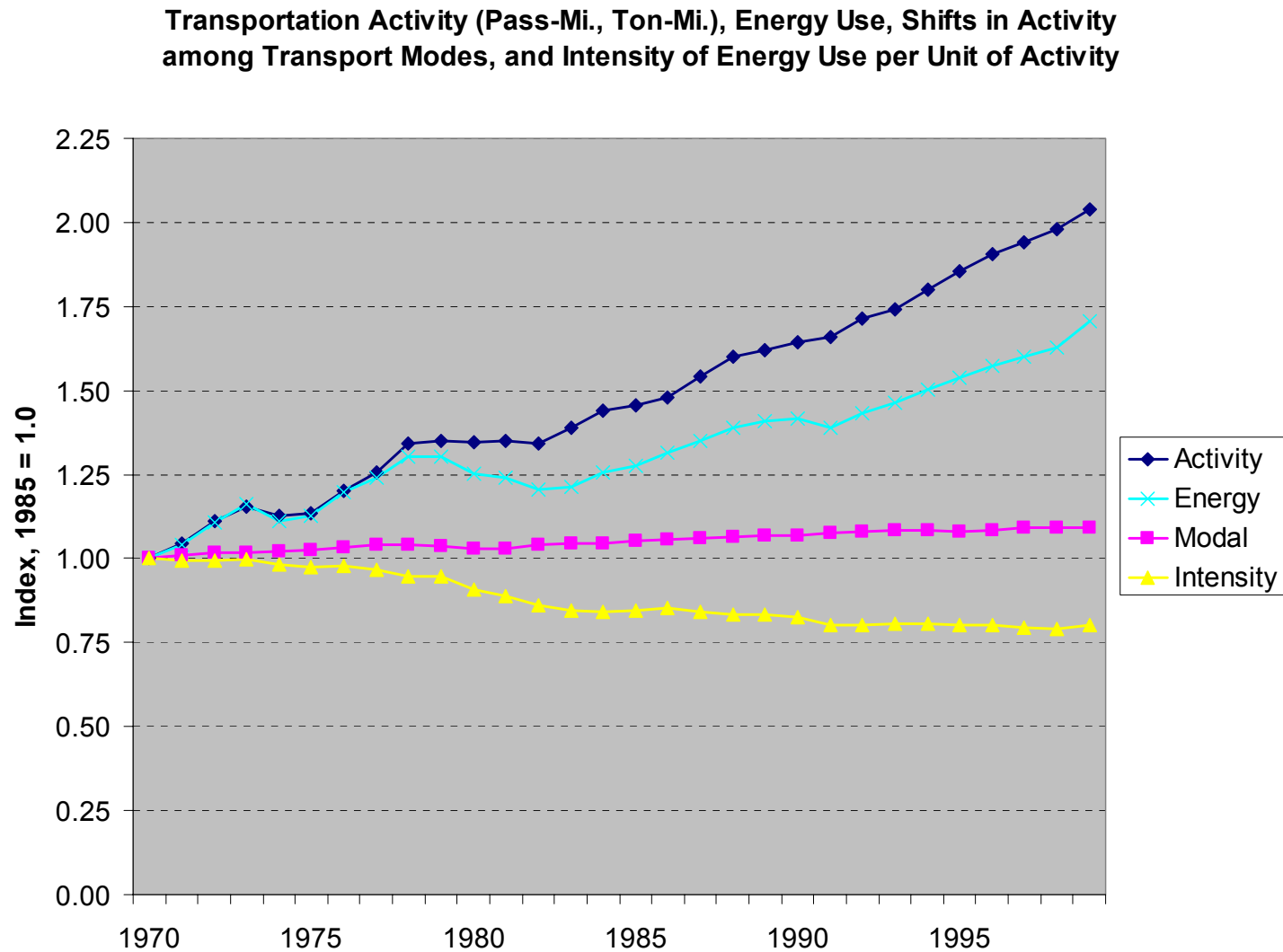
Transportation Policy and Planning
Engineering Science and Technology
Oak Ridge National Laboratory

May 14, 2002

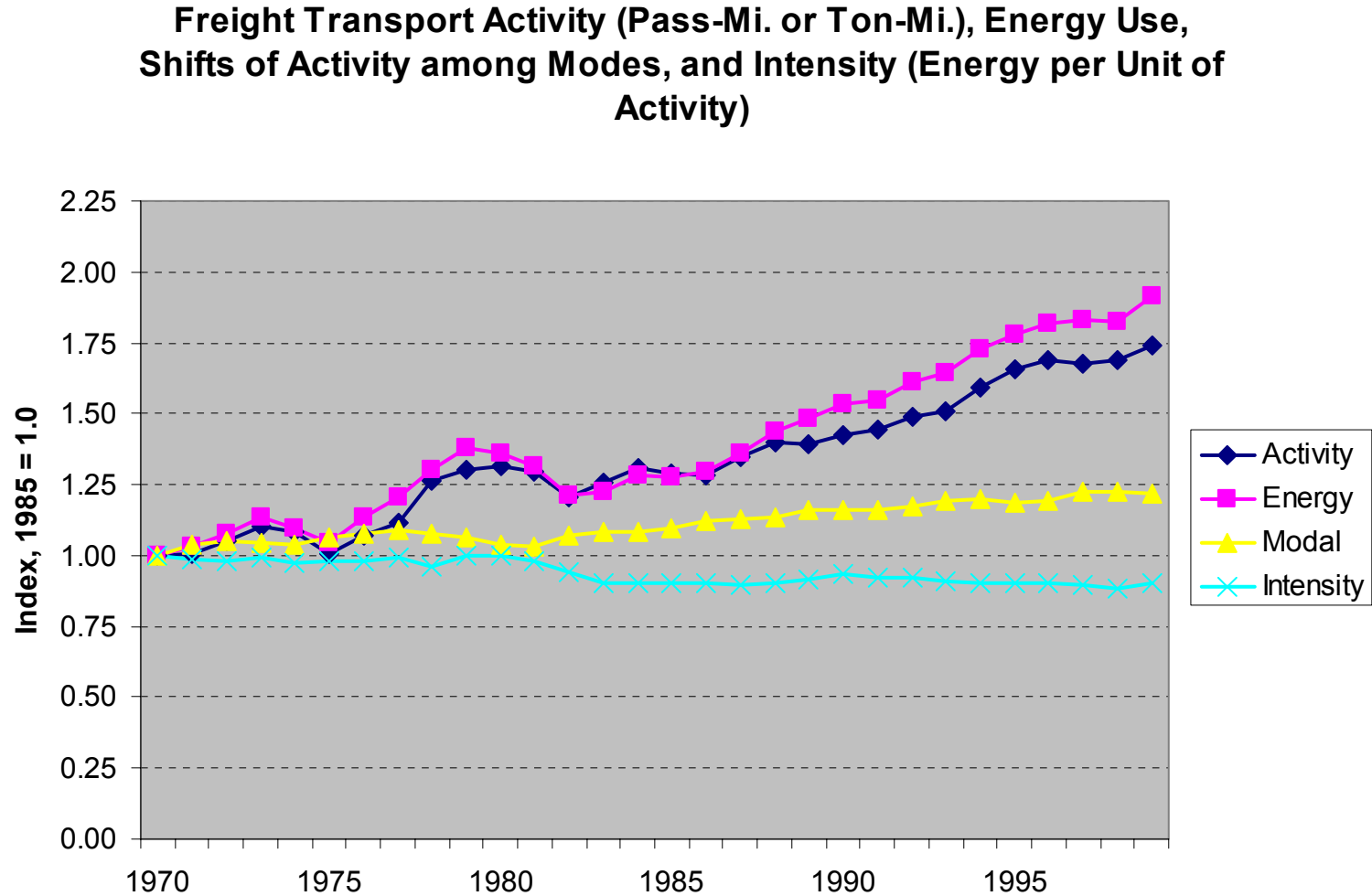
As the highway mode dominates transport energy use, so light-duty vehicles are the biggest energy users on the highways.



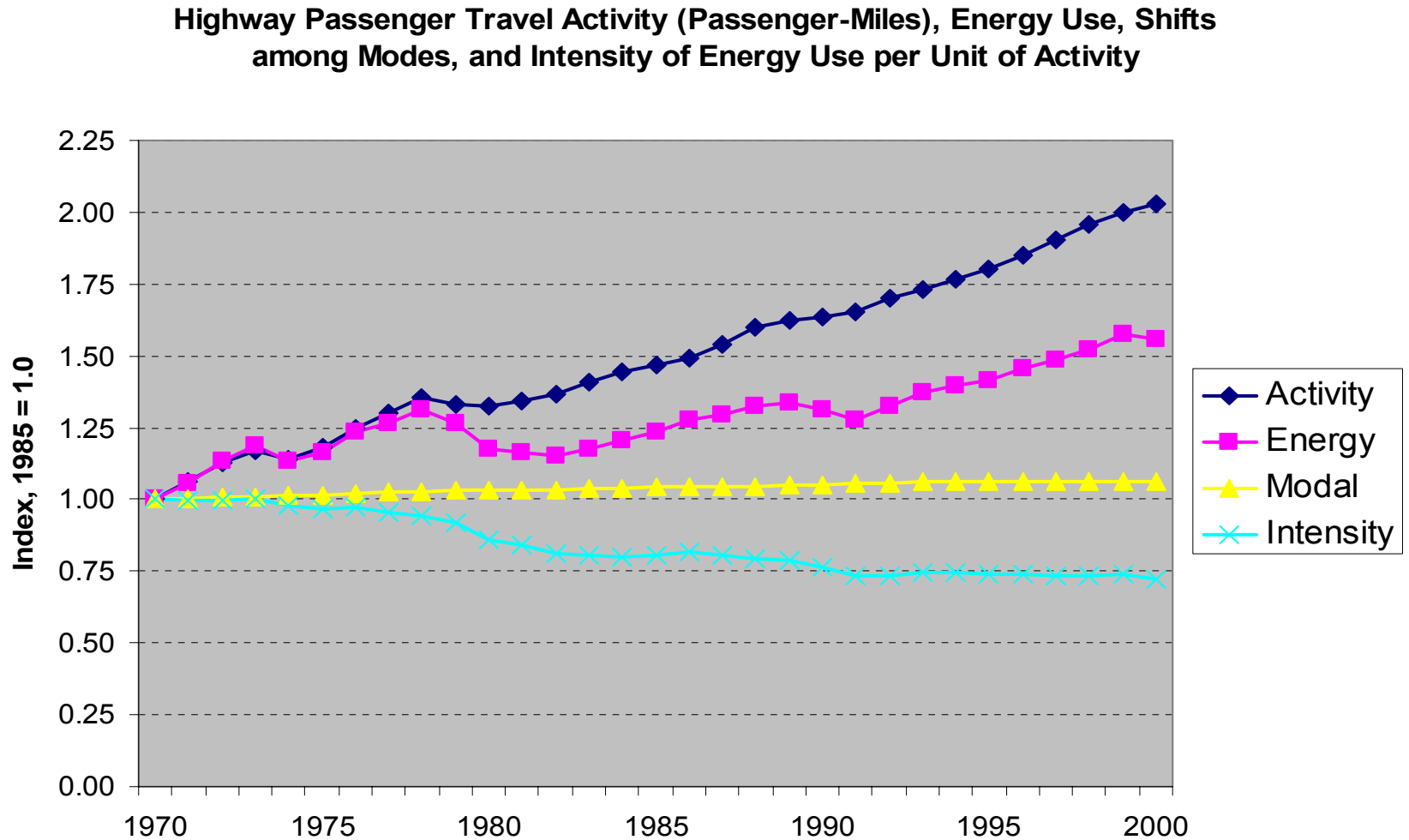
Since 1970, transportation activity has doubled, energy use is up 75%.



In the freight sector, shifts to energy-intensive modes were more important, intensity improvements more modest.

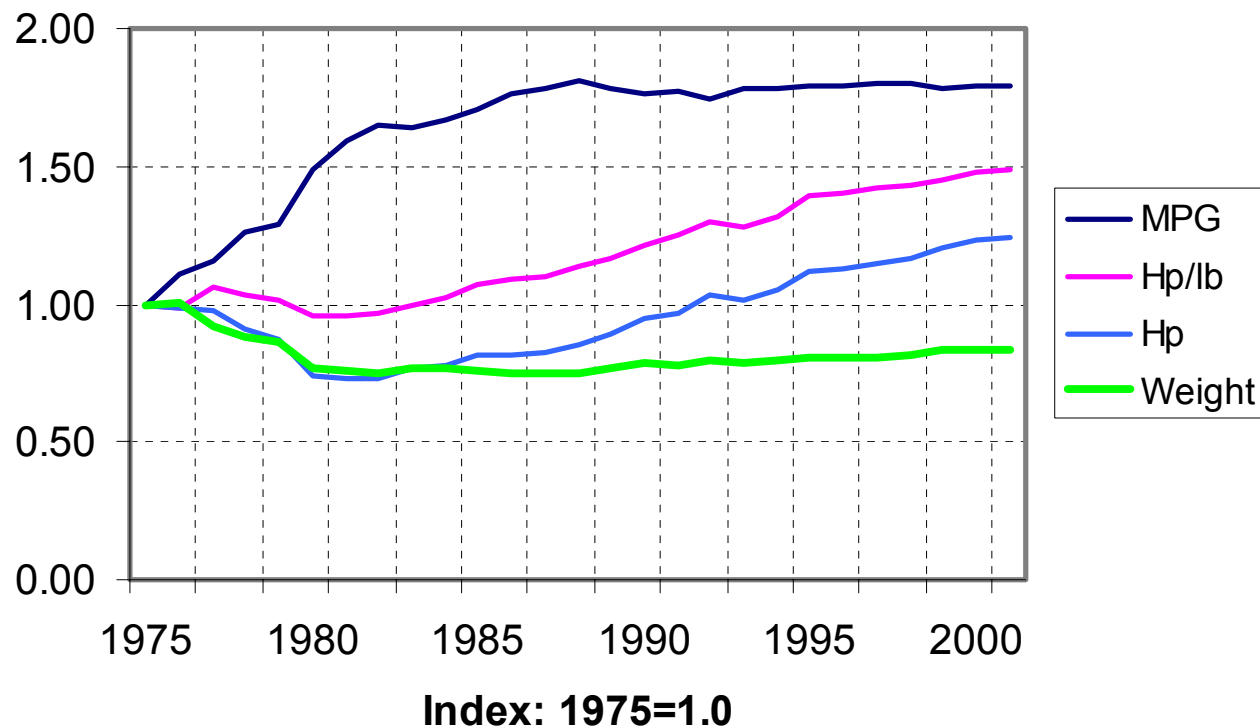


Passenger vehicle energy intensity reductions were diminished by declining vehicle occupancy.

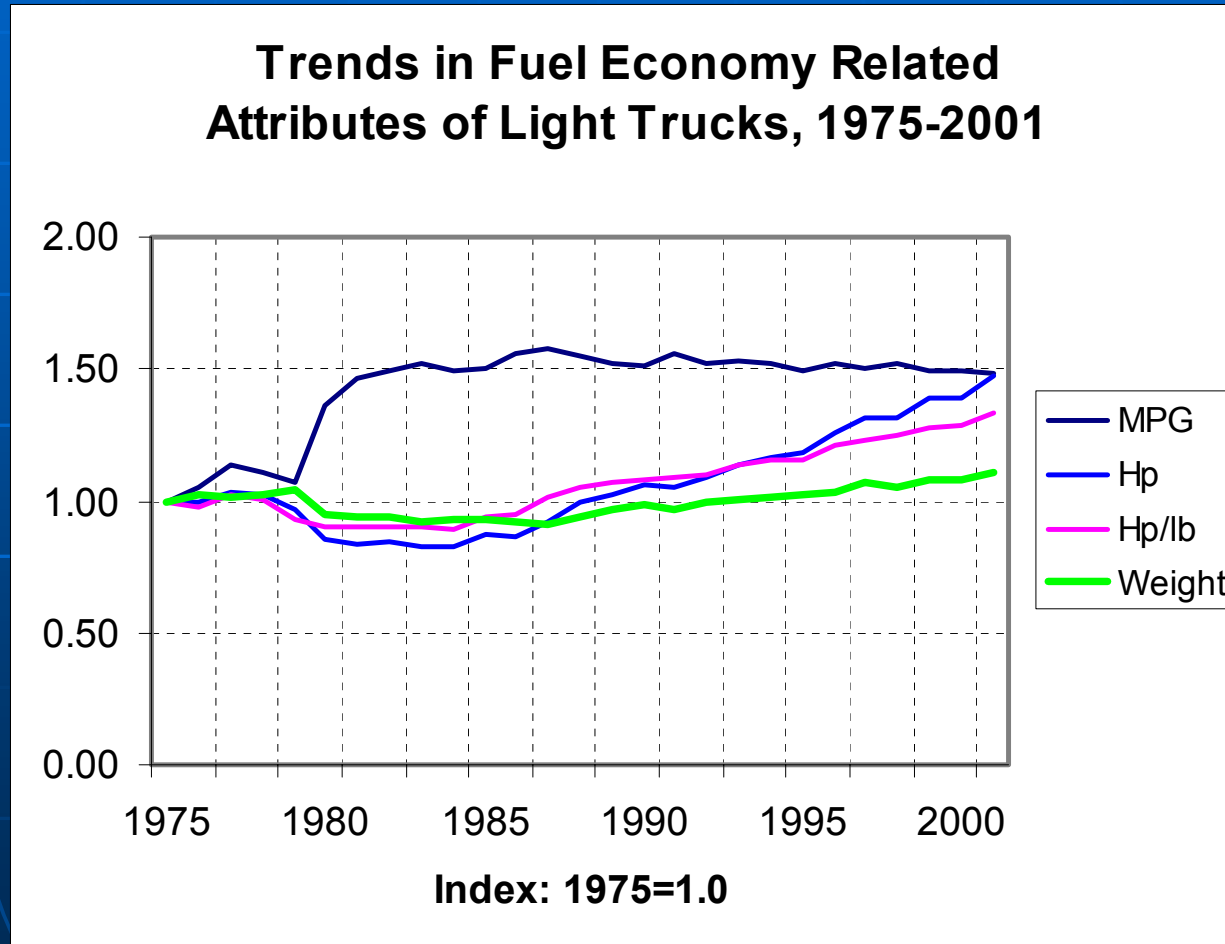


Advances in technology may not go to increasing fuel economy (how measure intensity?).

**Trends in Fuel Economy Related
Attributes of Passenger Cars, 1975-2001**

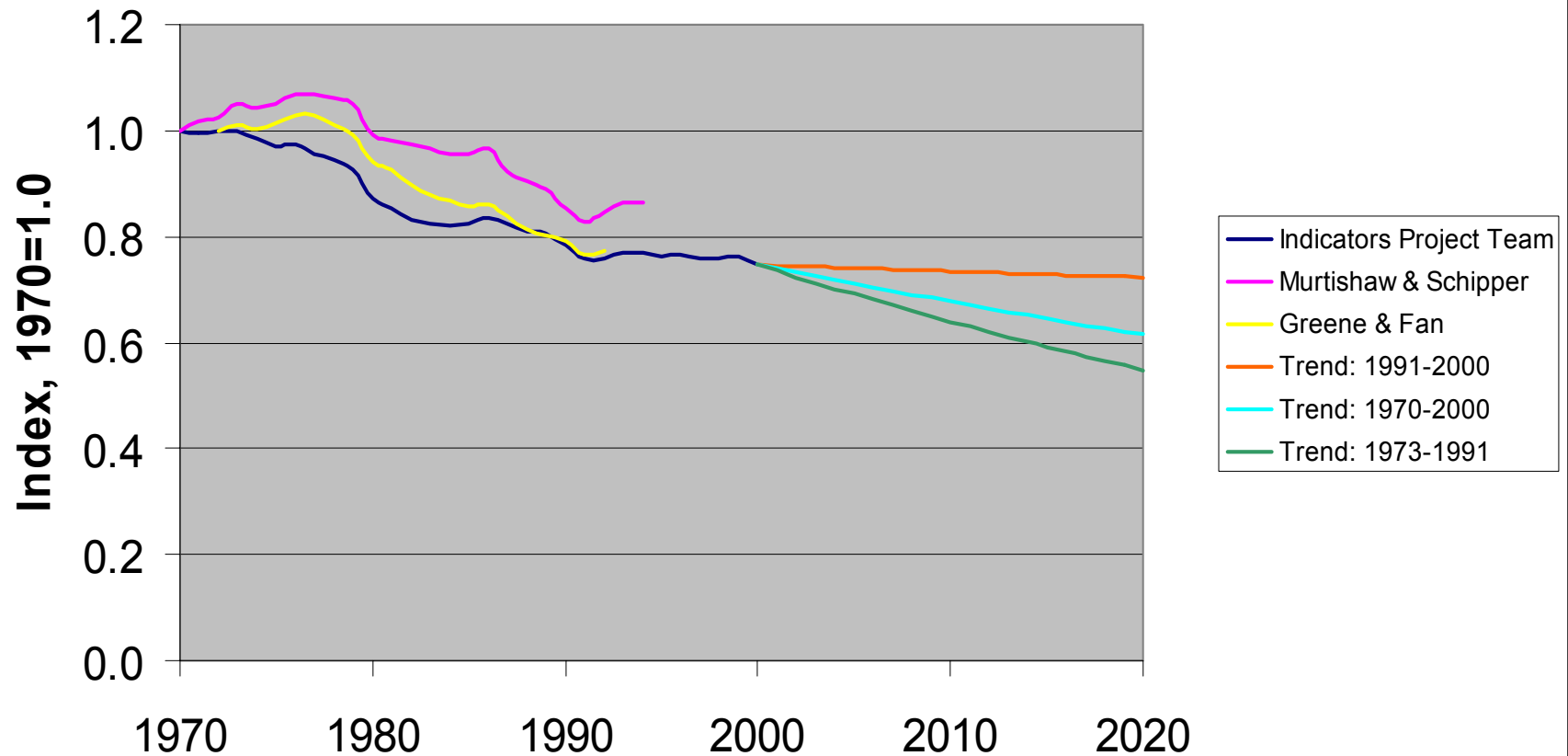


Similarly, light truck MPG has not increased since 1983, but power and weight have.



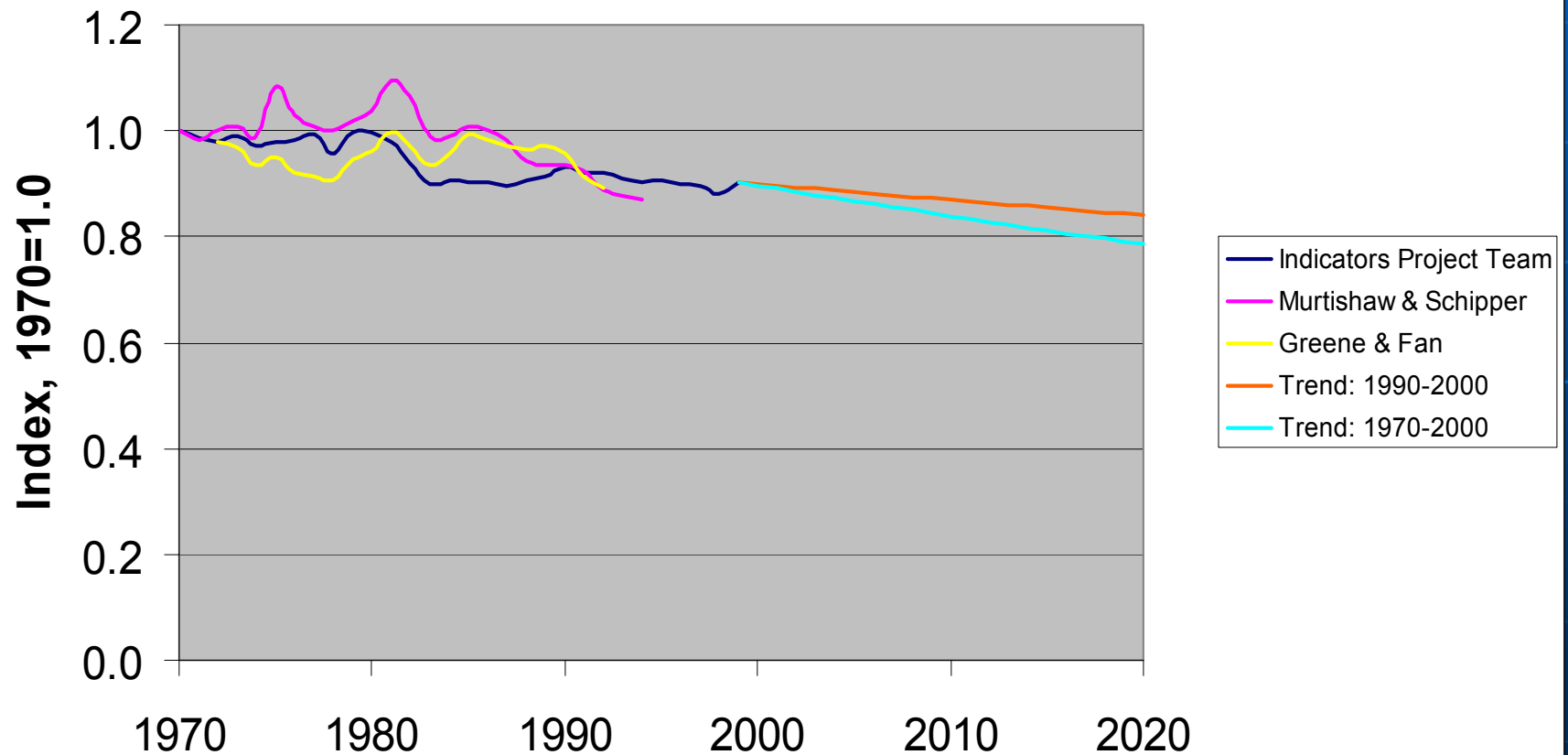
History may tell us little about where future transportation energy intensity will go.

Intensity of Energy Use per Passenger Mile

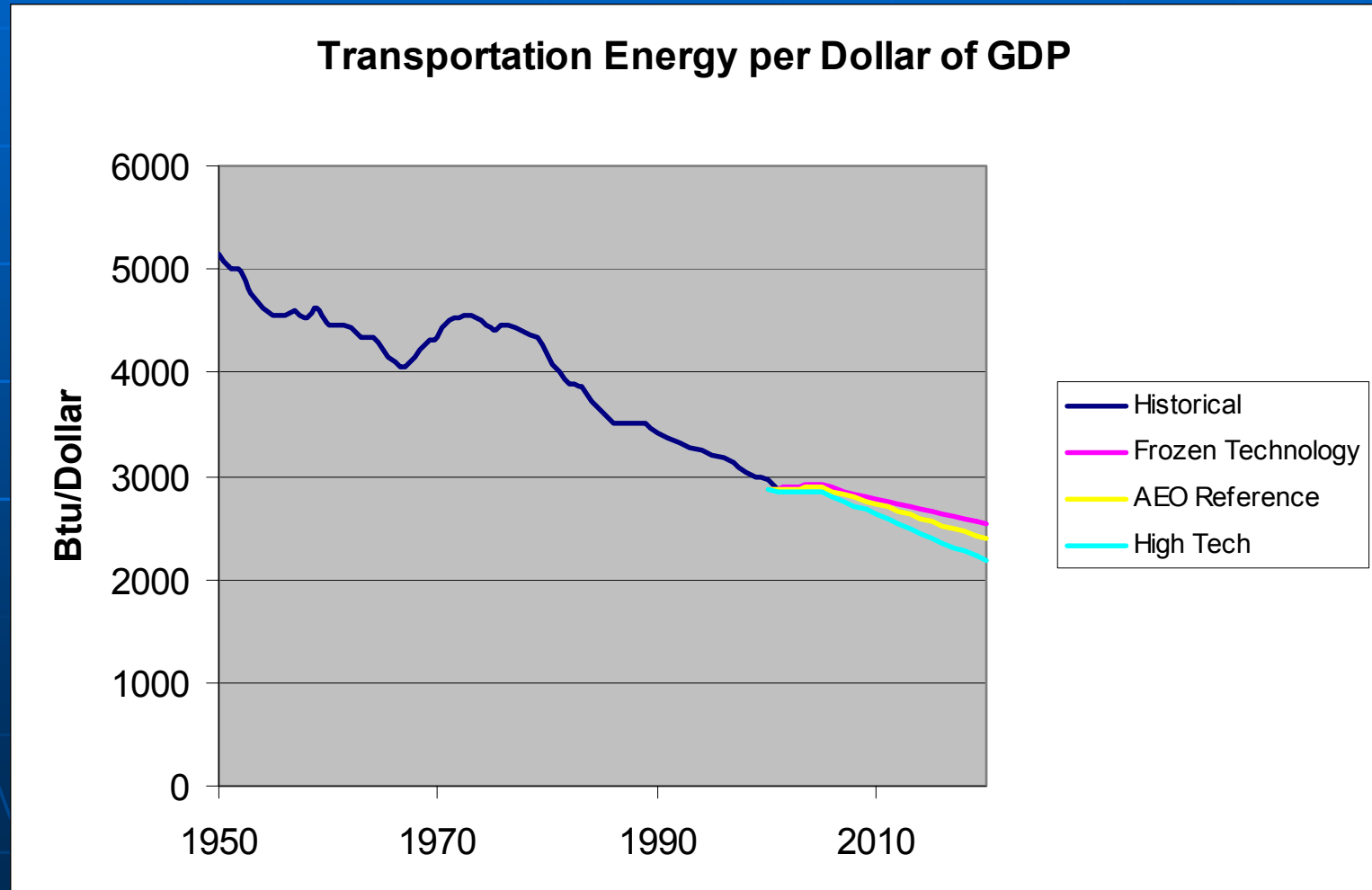


Slower rates of decline in freight energy intensity reflect the opposing effects of modal structure and energy intensity.

Energy Use per Ton-Mile of Freight Transport



Transportation energy use per \$ of GDP
may be expected to decline in the future.
(historically, at $-1.1\%/year$)



THANK YOU.